REMARKS

Claims 1-8, 10-13, and 16-34 are pending. Claims 1 is amended. The amendments to claim 1 finds basis at paragraph 0020 on page 7 or are stylistic in nature.

Rejections Under 35 U.S.C. § 102(b)

Claims 1-8, 10-13, 16-22, 24, 25, 27-31, and 34 were rejected as allegedly anticipated under 35 U.S.C. § 102(b) as allegedly anticipated by U.S. Patent No. 5,994,493 ("the 493 patent"). Applicants respectfully traverse as the 493 patent does not directly or inherently disclose several features of the pending claims. These deficiencies are discussed below.

Solid versus Liquid Nature of Polyols

The instant claims are amended to explicitly recite that the polyester-polyols recited in component (i)(b) of claim 1 are solid at room temperature. The 493 patent, in contrast, recites this component is a liquid at room temperature. *See*, column 5, lines 33-38 of the 493 patent. In particular, the 493 patent states that '[t]he "polyester polyols" suitable for use in accordance with the invention are liquid at room temperature." *See*, column 5, lines 33-35 of the 493 patent. In making the rejection, the Office asserts that the liquid component is expected to be provided by the partially crystalline polyols. Office Action at page 8. Applicants disagree. A partially crystalline polyol, however, would be expected to consist of crystalline and amorphous regions. This is evidenced by the copy of an article from Encyclopedia of Polymer Science (authored by Li and Cheng) presented herewith. The relevant passage is underlined on page 2 of the article. As such, any partially crystalline polyol in the composition of the instant claims would not be expected to contain a liquid component. For at least this reason, the cited art does not teach or suggest each element of the pending claims.

Cancelation of Polether Polyol Language from Component "b"

The Office further states that polyol (ii) of the 493 patent is within the scope of the polyether polyol of component "b" of the instant claims. Office Action at page 8. While not agreeing with this assessment, Applicants have removed "polyether-polyols having number

average molecular weights less than 1,000" from component "b" of claim 1. Because the 493 patent does not teach use of a composition containing the polyols of component (i)(b) of instant claim 1, the cited document does not anticipate the instant claims.

Aromatic polyol component

The 493 patent concerns a polyurethane composition based on (i) polyether polyols and/or polyester polyols and (ii) aromatic polyols. *See*, for example, column 4, lines 23-39. Aromatic polyols are defined in the 493 patent as an alkoxylation product of an aromatic polyhydroxy compound. *See*, the 493 patent at column 5, lines 5-6. The 493 patent does not teach at least one reaction product lacking an aromatic polyol component as claimed by Applicants. The Office argues that Applicants have not shown that the aromatic component impacts the basic and novel characteristics of the composition covered by the "consisting of" transitional phrase. Applicants submit, however, that one skilled in the art would expect different properties between aromatic and aliphatic compositions based on the pervasive differences in properties between the two classes of compounds that is commonly known in the art.

Content of monomeric diisocyanate

Claim 1 recites that the adhesive has a monomeric diisocyanate content of less than 0.5 wt.%. There is no allegation in the Office Action that the 493 patent contains a teaching or suggestion of this limitation. Indeed, such a low level of monomer is not taught or suggested by the 493 patent. The Examples and Comparative Examples of the instant specification show that monomer content rises for examples using 4,4'-MDI versus examples where the MDI is predominantly 2,4'-MDI. *See*, pages 14-15 of the instant specification, including the Table. In the 493 patent, the MDI used in the examples is a 1:1 mixture of 4,4'-MDI and 2,4'-MDI whereas the instant claims recite MDI having at least 95 wt.% of 2,4'-diphenylmethane diisocyanate. Thus, the claimed low monomer content would not necessarily follow from the 493 patent, and, in fact, the 493 patent disclosure would be expected to produce products having a higher monomer content than recited in the instant claims.

Moreover, the fact that the 493 patent generally discloses that 2,4'-diphenylmethane diisocyante (2,4'-MDI) is a possible selection for the diisocyanate in claim 9 of the 493 patent does not disclose or suggest the use of at least 95 weight % of such a diisocyanate as claimed by Applicants. Indeed, the 493 patent discloses only mixtures of 4,4'-MDI and 2,4'-MDI that fall below the 95% range or use of "pure" 2,4'-MDI in a two step process where any 2,4'-MDI would be used in a second step after reaction with a different diisocyanate. See, for example, column 4, line 53 to column 5, line 4 and claim 18 (which depends from claim 16).

Rejections Under 35 U.S.C. § 103(a)

Claims 1-8, 10-13, and 16-34 were rejected under 35 U.S.C. § 103(a) as allegedly obvious over the 493 patent. To establish a *prima facie* case of obviousness, there must be some reason, either in the documents of record themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the documents or to combine cited teachings. *KSR International Co. v. Teleflex Inc.*, 127 S. Ct. 1727, 1741 (2007). Moreover, the cited document (or documents when combined) must teach or suggest all the claim limitations. The reason to make the claimed combination, and a reasonable expectation of success, must be found elsewhere than in Applicants' disclosure, such as in the cited documents, the nature of the problem to be solved, or in the knowledge/understanding of the person of ordinary skill in the art. MPEP § 2143; *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991). Applicants submit that the instant rejection does not meet these requirements. As set forth above, the 493 patent is deficient in several aspects concerning the instant claims. There is no teaching or suggestion or any reason to modify the teachings of the 493 patent to meet each and every limitation of the pending claims.

Solid versus Liquid Nature of Polyols

Also as discussed above in regard to the alleged anticipation rejection, the instant amendments and evidence submitted herewith render the assertion that the polyester-polyols of the instant claims can contain liquids at room temperature moot. As noted above, the polyester-polyols of the 493 patent are liquids and there is no motivation provided for one to

conform the teachings of the 493 patent with the scope of the instant claims. For at least this reason, the 493 patent does not support a *prima facie* case of obviousness.

Cancelation of Polether Polyol Language from Component "b"

As discussed above, Applicants have removed "polyether-polyols having number average molecular weights less than 1,000" from component "b" of claim 1. This amendment moots the argument that "polyol ii" of the cited document falls within the scope of the instant polyols of component (i)(b) of claim 1.

Aromatic polyol component

As discussed in detail in the remarks concerning the alleged anticipation rejection, there is no teaching in the 493 patent to arrive at a reaction product in the adhesive that does not include an aromatic polyol component. As discussed above, the Office relies on the "consisting essentially of" and "at least one compound" language to assert possible inclusion of the aromatic polyol component of the 493 patent. As discussed above, the instant amendments further clarify that this assertion is not consistent with the pending claims. For at least this reason, the document cited by the Office fails to support a *prima facie* case of obviousness.

Content of monomeric diisocyanate

Finally, the Office does not properly support a *prima facie* case of obviousness related to a monomeric diisocyanate content of less than 0.5 wt.%. The Office merely asserts that there is "no evidence that the polyurethane of Krebs contains more monomeric isocyanate than encompassed by claim 2" (November 25, 2009 Office Action at page 16). Applicants note that claim 2 recites a concentration of monomeric diisocyanate of less than 0.25 wt.% which is less than the limitation recited in claim 1 (0.5 wt. %). As discussed in the instant application:

> "[T]he residual content of monomeric diisocyanate in the reaction product depends on the NCO/OH ratio of the reactants in the prepolymer synthesis. At an NCO/OH ratio of 2, such as is often necessary for the prepolymer composition, about 25% of the monomeric diisocyanates employed remains as monomer in the

> prepolymer. If e.g. 10 wt.% diphenylmethane diisocyanate (MDI) is employed in a prepolymer synthesis at an NCO/OH ratio of 2, about 2 wt.% of monomeric MDI is found in the prepolymer, in agreement with the abovementioned statistical estimation of the order of size."

Instant specification at paragraph 0008 on page 3. Based on the forgoing, the low levels of monomeric isocyanate content are not what one would expect in an adhesive formulation. Under such circumstances, Applicants submit that the issue is not whether Applicants have presented evidence as to whether the composition of the 493 patent contains such low levels of monomeric isocyanate, the question should be why would one expect such levels in the composition of the 493 patent. As such, Applicants submit that the burden should be on the Office to provide teachings or evidence to support the assertion. Withdrawal of the rejection is respectfully requested.

For any of the forgoing reasons, Applicants submit that the rejection should be withdrawn.

Alleged Obviousness-Type Double Patenting

Claims 1-8, 10-13, 16-22, 24, 25, 27-31, and 34 were rejected on the ground of alleged nonstatutory obvious-type double patenting over claims 1-29 of the 493 patent). For reasons analogous to those discussed for the § 103(a) rejection, the nonstatutory obvious-type double patenting rejection should be withdrawn. As discussed above, the whole of the 493 patent does not render the pending claims obvious. As such, a rejection relying on only the claims of the 493 patent also would not render the pending claims obvious.

Conclusion

Applicants believe that the foregoing constitutes a complete and full response to the Office Action of record. Accordingly, an early and favorable reconsideration of the rejections and an allowance of all of pending claims is earnestly solicited.

Respectfully submitted,

Date: March 24, 2010

/John A. Harrelson, Jr./

John A. Harrelson, Jr., Ph.D.
Registration No. 42,637

Woodcock Washburn LLP
Cira Centre
2929 Arch Street, 12th Floor
Philadelphia, PA 19104-2891
Telephone: (215) 568-3100
Facsimile: (215) 568-3439